



## ENVIRONMENTAL SERVICES DEPARTMENT AIR QUALITY DIVISION

### AIR TOXICS/HAZARDOUS AIR POLLUTANT PERMITTING PROCEDURE

DRAFT      December 14, 1999

#### PURPOSE:

This document is written to assist the Department's permit writers. It is the intent of this procedure to provide a consistent regulatory mechanism during the permitting process covering the release of toxic emissions into the ambient air. These air toxics or HAPs, if released in substantial quantities, could pose a threat to human health or the environment. This procedure is intended to act as a supplement to the Department's conventional air pollutant control permitting procedures.

#### DEFINITIONS:

*Air toxic:* Any of the chemicals listed in the Arizona Ambient Air Quality Guidelines (AAAQGs) list dated on July 15, 1992. The list was generated by the Arizona Department of Health Services (ADHS) and is contained in Appendix 1.

*Federal hazardous air pollutant (HAP):* Any substance listed in the current legal version of Section 112(b)(1) of the Clean Air Act Amendments of 1990.

*Good Engineering Practice (GEP) Stack Height:* A stack height meeting the requirements of Rule 240 §309.

*Guidance Numbers:* Numbers generated by ADHS using the AAAQG methodology for federal HAPs not listed in the July 15, 1992 AAAQG list. These guidance numbers are used for information purposes only.

*Meaningful Quantity:* Any single pollutant emitted at a rate of more than 500 pounds per year.

*State hazardous air pollutant:* Any hazardous air pollutant established under ARS 49 §426.04.

#### SCOPE:

This procedure:

- covers the issuance of permits for new sources, the issuance of renewal permits for existing sources originally permitted after January 1, 1990, and the approval of permit revisions for existing sources.
- is applied to the chemicals listed in the July 15, 1992 Arizona Ambient Air Quality Guidelines (AAAQGs) list contained in Appendix 1 and for federal HAPs not listed in the attached AAAQGs.
- is performed on the air emissions from the entire facility.
- covers releases occurring during normal business operation; it does not cover catastrophic or accidental releases.

- provides exposure information for chemicals emitted in a meaningful quantity and for releases below 500 pounds per year if the chemical is extremely toxic.
- does not require control of these pollutants if no other emission standards or limitations exist.
- does not try to predict actual health effects, but rather estimates maximum potential exposures and makes a comparison to the AAAQGs and equivalent guidance numbers.
- is done without consideration of background concentrations, impacts from other sources, or possible cumulative effects.
- does not cover any State hazardous air pollutants since none have been established.

**PROCEDURES:**

The procedure itself is shown in the flow diagram in the attached Figure 1 and is described in the following paragraphs.

1. Check if the chemical is both emitted in a meaningful quantity and listed in the July 15, 1992 Arizona Ambient Air Quality Guidelines. It should be noted that, while the list of chemicals on the AAAQG list was frozen by the 1992 list, the numerical values used in the analysis are the most recent figures generated by ADHS. If the answer to both of these questions is yes, proceed to step 3, otherwise go to step 2. It should be noted that the meaningful quantity threshold level as a trigger is only a rule of thumb. The permit engineer always has the discretion for including compounds that are emitted in lesser quantities due to high toxicity or other considerations.
2. If the chemical is emitted in a meaningful quantity and not listed in the AAAQGs, is it listed as a federal HAP? If the answer to this question is also no, then no further analysis is necessary and you should skip to step 7. If the answer is yes, have guidance numbers been previously established? If not, request that ADHS provide guidance numbers. Proceed to step 3.
3. A screen model should be run to determine the maximum resulting concentration. Either the applicant or the Division may do the modeling. The locations considered would normally be those areas to which the general public has access including such things as roads. This does not exclude considering on-site impacts if the proposed facility is unreasonably larger than would be expected for that type of operation. If the model predicts that the maximum concentrations will be less than the AAAQGs and any guidance numbers, then the analysis is finished and you should proceed to step 7. If the predicted concentrations are over any of these values, continue to step 4.
4. Inform the applicant of the problem and explain the air toxics permitting procedure to him. Give him the options of submitting a less conservative model such as ISC or proposing voluntary permit conditions that reduce the facility's offsite concentrations. The applicant needs to be made fully aware that voluntarily accepted limits will be incorporated into their permit and that these limitations will be enforced by the Department. Concentration reductions can be accomplished thru material substitution, adding controls, taking usage or operational limitations, increasing stack height up to what would be allowed based on Good Engineering Practice, or any other method that is enforceable. The applicant can choose to do any combination of these modeling and operational options or may chose to do none at all. After these options have been addressed, the resulting offsite concentrations are examined. If the predicted concentrations are below the AAAQGs and guidance numbers, the analysis is done except for documenting the analysis which is covered in step 7. However, be sure to include enforceable permit conditions if necessary to assure that the agreed upon offsite concentrations are not exceeded. If the applicant voluntarily proposed restrictions, make sure that the resulting permit conditions are noted as being voluntary and locally enforceable only. The other possibility is that the offsite

concentrations remain above the AAAQGs or guidance numbers. If this is the case, proceed to step 5.

5. Inform the applicant that the predicted offsite concentrations still exceed the AAAQGs or guidance numbers. If an agreement can still be reached to bring the predicted offsite concentrations under the AAAQGs and guidance numbers, the analysis is done. However, be sure to include enforceable permit conditions to assure that the offsite concentrations are limited and to document the analysis as outlined in step 7. If an agreement cannot be reached to bring the predicted offsite concentrations under the AAAQGs and guidance numbers, proceed to step 6.
6. In preparing any required public notice for the facility, include a list of chemicals covered by the application that exceed the AAAQGs and guidance numbers with a statement that “The predicted offsite concentrations for the listed chemicals exceed health based numbers provided by the Arizona Department of Health Services”. Also include a statement in the public notice on the level of control technology that the facility meets. The standard could be RACT, BACT or MACT. For example, if a MACT were involved, it would be “The proposed facility meets the federal Maximum Available Control Technology standards for hazardous air pollutants”. For RACT, use the term Maricopa County Reasonably Available Control Technology requirements for hazardous air pollutants and a similar phrase for BACT. If the facility is grandfathered from meeting any of these standards, then the notice will not contain any statement relating to control technology.
7. Be sure to document the analysis in the permit file. This would include, at a minimum, a copy of any modeling used in the analysis, sample calculations if applicable, and a section in the engineering notes describing any assumptions made or any unusual circumstances examined in reviewing the application.

## Permitting Process Flow Diagram For Air Toxics and HAPS

